APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,949	04/16/2004	Stephen K. Pinto	17146-0005001	1606

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FISH & RICHARDSON P.C. (BO)
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER
GAMI, TEJAL

ART UNIT	PAPER NUMBER
2121	

NOTIFICATION DATE	DELIVERY MODE
12/10/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>22 September 2010</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-13</u> is/are pending in the application.

    4a) Of the above claim(s) <u>10-12</u> is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-9 and 13</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>09/22/2010, 10/18/2010</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail. Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is responsive to an **AMENDMENT** entered September 22, 2010

for the patent application 10/826949.

Status of Claims

2.   Claims 1-9 and 13 were rejected in the last Office Action dated March 22, 2010.

As a response to the March 22, 2010 office action, Applicant made Amendments to

claims 1, 2, and 7.

As a response to an election/restriction requirement, claims 10-12 were

withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a

non-elected invention on 12/15/2009.

Claims 1-9 and 13 now remain under consideration in this Office action.

Applicant is reminded that the non-elected claims 10-12 must be canceled from this

application if the office finds that the claims 1-9 and 13 under consideration are

allowable and the application in condition for allowance.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Bounsaythip and Rinta-Runsala "Overview of Data Mining for Customer Behavior

Modeling" - Finland: VTT Information Technology, Research Report TTE1-18, 2001

(hereinafter "Bounsaythip"), in view of Clifford C. Clogg, et al., "Multiple Imputation of

Industry and Occupation Codes in Census Public-use Samples Using Bayesian Logistic

Regression," Journal of the American Statistical Association, Vol. 86, No. 413, pp. 68-

78, March 1991 (hereinafter "Clogg").

        As to independent claim 1, Bounsaythip discloses a machine-based method

comprising receiving historical (see Page 7, Figure 3) multi-dimensional data

representing multiple variables (e.g., multi-dimensional) (see Page 13, Section 3.3.1

Definition; and Page 44, Checkpoint 5), transforming the variables into one or more

predictive variables (e.g., predictive model) (see Page 8, Section 2.4.1 Data sampling),

including Bayesian renormalized variables (see Page 32, Section 3.8 Other data mining

methods; and Page 18, Section 3.4.4 Advantages/Disadvantages), the transforming of

the variables into the Bayesian renormalized variables (e.g., normalized between 0 and

1) (see Page 18, Section 3.4.4 Advantages/Disadvantages) comprising adjusting a

response frequency associated with a variable by a Bayesian analysis based on a priori

response frequency associated with the variable (e.g., APrioriAll algorithm) (see Pages

25-27, Section 3.6.3 Algorithm and 3.6.4 Illustration), and using the transformed

variables in generating a predictive model for use in interacting with a commercial

system (e.g., build the model to predict) (see Page 7, Section 2.4 Model building).

Bounsaythip clearly teaches regression (e.g., classification and regression) (see

Page 11, Classification and Regression), but does not specify a mean response

frequency. Clogg teaches adjusting of the response frequency associated with the

variable comprising associating the variable with a weight to regress the response

frequency toward a mean response frequency (e.g., mean frequency) (see Clogg: Page

73-74, Table 3 and 5). Therefore, it would have been obvious to one of ordinary skill in

the art at the time the invention was made to have utilized a mean response frequency

as taught by Clogg to the regression of Bounsaythip because the Bayesian strategy

used in this project can be applied to other sparse-data settings where logistic

regression is used (see Clogg: Abstract).

As to dependent claim 2, the combination of Bounsaythip and Clogg teaches

the method of claim 1 further Bounsaythip teaches comprising adjusting a population of

variables to represent interaction effects exhibited by the historical data (e.g., data

mining to visualize non-linear interaction of variables) (see Page 10, First two

Paragraphs), the interaction effects including stages of main effect interactions, main

effects with main effect interactions and excluded variable interactions, and main effects

with main effect interactions and excluded variable interactions together with excluded

variable combined interactions (e.g., visualizing multiple interactions) (see Page 14,

Section 3.3.3 Advantages/Disadvantages).

As to dependent claim 3, the combination of Bounsaythip and Clogg teaches

the method of claim 1 in which Bounsaythip teaches the predictive model predicts

behavior (e.g., patterns of behavior) of a current customer with respect to retention of a

current service or product of a vendor (e.g., customers products and services) (see

Page 11, Association and sequencing).

As to dependent claim 4, the combination of Bounsaythip and Clogg teaches

the method of claim 1 in which Bounsaythip teaches the predictive model predicts

behavior of a current customer with respect to risk of asserting claims, loan payment or

prepayment to a vendor (e.g., loan) (see Page 17, Section 3.4.3 Illustration).

As to dependent claim 5, the combination of Bounsaythip and Clogg teaches

the method of claim 1 in which Bounsaythip teaches the predictive model predicts

behavior of a current customer with respect to usage of a current service or product of a

vendor (e.g., customers products and services) (see Page 11, Association and

sequencing).

As to dependent claim 6, the combination of Bounsaythip and Clogg teaches

the method of claim 1 also Bounsaythip teaches including enabling a user to reconstruct

a sequence of choices involved in the creation of the predictive model (e.g., discovered

sequence) (see Page 35, Section 4.1.2 Customer retention with sequential patterns).

As to dependent claim 7, the combination of Bounsaythip and Clogg teaches

the method of claim 1, further Bounsaythip teaches comprising enabling a user to

interactively manage a sequence of steps for adjusting a population of variables through

a graphical user interface (e.g., graphical user interface) (see Page 14, Section 3.3.3

Advantages/Disadvantages), the sequence of steps including at least two or more steps

(e.g., dimension reduction) (see Page 6, Last Paragraph continuing to Page 7), and the

graphical user interface including an activation portion (e.g., build) (see Page 7, Section

2.4 Model building), which upon activation, enables the user to revisit at least one of the

steps (see Page 6 and 8, Section 2.3.3 Data preparation & 2.4.1 Data sampling).

As to dependent claim 8, the combination of Bounsaythip and Clogg teaches

the method of claim 1 in which Bounsaythip teaches the predictive model predicts

behavior of prospective or current customers of a vendor with respect to products or

services offered by the vendor (e.g., customers products and services) (see Page 11,

Association and sequencing).

As to dependent claim 9, the combination of Bounsaythip and Clogg teaches

the method of claim 1 in which Bounsaythip teaches the predictive model predicts

behavior of a prospective or current customer with respect to purchase of a product or

service of a vendor (e.g., customers products and services) (see Page 11, Association

and sequencing).

As to dependent claim 13, the combination of Bounsaythip and Clogg teaches

the method of claim 7 further Bounsaythip teaches comprising enabling the user to

control staging of a sequence of model generation activities through the user interface

(e.g., generate models) (see Page ii; and Pages 7-8, 2.4 Model Building & 2.4.1 Data

sampling).

Response to Arguments

5.   Applicant's arguments filed September 22, 2010 are moot in light of new grounds

of rejections necessitated by the amendment.

Conclusion

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Tejal J. Gami whose telephone number is (571) 270-

1035. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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/ALBERT DECADY/
Supervisory Patent Examiner, Art
Unit 2121

/TJG/